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In the computation of the parallaxes the adopted value of the Sun's mean horizontal parallax is 8″·85, and the geocentric distances, Δ, are taken from the *Astronomische Nachrichten*, No. 3,349.

Observers' Remarks.

April 30.—The comet appeared as a large diffused mass about 0′·8 in diameter, difficult to observe; there was no definite condensation. Only one bisection secured in N.P.D. Sky rather thick.

May 1.—Round patch of light; a condensation showed now and then, but difficult to bisect properly.

May 2.—Observed in a nearly dark field; observation not satisfactory; very difficult.

May 4.—Only a very approximate observation; sky very thick.

May 11.—Good observation.

May 13.—Very difficult, faint; sky hazy.

May 14.—Observation considered very fair for so faint an object.

Observers: W., Mr. W. Wickham; R., Mr. W. H. Robinson.

Radcliffe Observatory, Oxford:
1897 *March* 11.

Ephemerides for Physical Observations of Mercury.

By A. Marth.

Though the assumption of the coincidence of the plane of *Mercury's* equator with that of the orbit is arbitrary, it is at present the only one available, if the wishes of observers for ephemerides are to be complied with. I now give such ephemerides covering the times of Mr. Percival Lowell's observations made in the autumn of 1896, and also the part of the next synodical revolution, during which observations may be procurable. As it is simpler to employ in the computations the planet's geocentric ecliptical longitudes and latitudes, not published in the *Nautical Almanac*, I have used the places of the *Connaissance des Temps*, so that the data of the ephemeris are true ones for Paris noon, and apparent ones for Greenwich noon $+\tau$.

P denotes the position-angle of the assumed axis of rotation, reckoned, as usually, from the declination circle.

L + 180 and B, the longitude and latitude of the Earth referred to the planet's orbit, the longitude being reckoned from the perihelion.

ω_0 the hermographical longitude of the central meridian on the supposition that the period of rotation coincides with the planet's return to perihelion, or the angle "Mean Anomaly − L." If n is considered the daily rate of rotation "Const. $+ n(t-t_0)$ − L" must be substituted.

d, the apparent diameter, 6″·68 being the assumed value at distance 1.

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q and Q, the amount and position-angle of the greatest defect of illumination, *q* being expressed in parts of the diameter.

v the angle between Sun and Earth, as seen from *Mercury*.

1896.		*t*	P	L	B	ω	*d*	*q*	Q	*v*
		m	°	°	°	°	″		°	°
Sept.	1	+0·1	28·53	108·10	+5·75	57·87	5·89	·270	115·5	62·59
	2	0·0	·61	109·45	5·78	60·62	5·96	·281	115·8	64·00
	3	−0·1	·68	110·77	5·80	63·39	6·03	·292	116·0	65·43
	4	0·2	·73	112·07	5·82	66·18	6·10	·304	116·2	66·88
	5	−0·4	28·77	113·34	+5·85	69·00	6·18	·316	116·4	68·36
	6	0·5	·80	114·58	5·87	71·85	6·26	·328	116·6	69·87
	7	0·6	·82	115·80	5·89	74·73	6·34	·341	116·8	71·41
	8	0·7	·83	116·98	5·92	77·64	6·43	·354	117·0	72·99
	9	−0·8	28·82	118·13	+5·94	80·59	6·52	·367	117·2	74·61
	10	1·0	·81	119·24	5·97	83·57	6·61	·381	117·4	76·29
	11	1·1	·79	120·32	5·99	86·58	6·71	·396	117·5	78·02
	12	1·2	·76	121·36	6·02	89·63	6·82	·412	117·7	79·81
	13	−1·3	28·73	122·35	+6·04	92·73	6·93	·428	117·8	81·67
	14	1·5	·69	123·31	6·07	95·87	7·04	·445	118·0	83·61
	15	1·7	·65	124·21	6·10	99·06	7·16	·462	118·2	85·62
	16	1·8	·61	125·06	6·12	102·30	7·28	·480	118·4	87·72
	17	−1·9	28·56	125·86	+6·15	105·60	7·41	·499	118·6	89·92
	18	2·0	·51	126·60	6·18	108·95	7·55	·519	118·8	92·22
	19	2·1	·46	127·27	6·20	112·37	7·69	·540	119·0	94·64
	20	2·3	·42	127·87	6·23	115·86	7·84	·563	119·2	97·19
	21	−2·4	28·38	128·39	+6·25	119·43	7·99	·586	119·5	99·87
	22	2·5	·34	128·84	6·28	123·08	8·15	·610	119·8	102·69
	23	2·7	·31	129·20	6·30	126·81	8·31	·635	120·1	105·67
	24	2·8	·29	129·46	6·32	130·64	8·48	·661	120·5	108·82
	25	2·9	·28	129·62	6·33	134·57	8·65	·689	120·9	112·16
	26	3·0	·29	129·67	6·34	138·61	8·82	·717	121·4	115·69
	27	−3·2	28·30	129·61	+6·35	142·77	9·00	·746	121·9	119·43
Oct.	15	−3·1	28·72	114·37	+5·75	231·67	8·91	·858	294·8	135·71
	16	2·9	·71	114·00	5·78	236·13	8·66	·815	295·8	129·15
	17	2·7	·70	113·83	5·80	240·39	8·40	·770	296·6	122·71
	18	2·5	·69	113·84	5·82	244·47	8·15	·722	297·2	116·41
	19	−2·3	28·69	114·04	+5·85	248·37	7·90	·673	297·6	110·27
	20	2·1	·69	114·41	5·87	252·09	7·65	·624	298·0	104·32
	21	1·9	·69	114·94	5·89	255·65	7·42	·575	298·3	98·58
	22	1·6	·68	115·62	5·92	259·06	7·20	·527	298·6	93·05
	23	−1·4	28·67	116·45	+5·94	262·33	6·99	·480	298·8	87·74

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		t	P	L	B	ω_0	d	q	Q	v
1896.		m	°	°	°	°	″		°	°
Oct.	24	1·2	·65	117·40	5·97	265·48	6·79	·436	298·9	82·66
	25	0·9	·62	118·45	5·99	268·52	6·61	·394	299·0	77·81
	26	0·7	·58	119·60	6·02	271·46	6·44	·355	299·1	73·19
	27	−0·5	28·52	120·83	+6·05	274·32	6·28	·319	299·1	68·81
	28	0·3	·45	122·13	6·07	277·11	6·13	·286	299·1	64·65
	29	−0·1	·36	123·49	6·10	279·84	6·00	·255	299·0	60·70
	30	+0·1	·25	124·90	6·12	282·52	5·88	·227	298·9	56·97
	31	0·3	28·12	126·36	6·15	285·16	5·76	·202	298·8	53·44
Nov.	1	0·5	27·98	127·85	6·18	287·76	5·66	·179	298·6	50·10
	2	+0·6	27·81	129·37	+6·20	290·33	5·56	·159	298·4	46·93
	3	0·8	27·62	130·91	6·23	292·88	5·47	·140	298·2	43·94
	4	1·0	27·41	132·47	6·25	295·41	5·38	·123	297·9	41·11
	5	1·1	27·17	134·05	6·28	297·93	5·31	·108	297·6	38·43
	6	+1·3	26·92	135·64	+6·30	300·43	5·24	·095	297·2	35·89
	7	1·4	26·64	137·24	6·32	302·93	5·17	·083	296·8	33·47
	8	1·5	26·35	138·84	6·33	305·42	5·11	·072	296·4	31·18
	9	1·6	26·03	140·45	6·34	307·90	5·06	·063	295·9	29·00
	10	+1·7	25·69	142·06	+6·35	310·38	5·01	·054	295·4	26·93
1897.										
Apr.	9	+1·2	332·39	312·23	−2·52	34·06	5·26	·054	67·4	26·78
	10	1·1	332·67	314·30	2·46	36·08	5·32	·071	66·8	30·94
	11	1·0	332·99	316·35	2·41	38·12	5·39	·091	66·4	35·17
	12	0·8	333·34	318·37	2·36	40·19	5·47	·114	66·2	39·46
	13	+0·7	333·71	320·37	−2·31	42·29	5·56	·139	66·1	43·81
	14	0·5	334·10	322·33	2·25	44·43	5·65	·167	66·1	48·17
	15	0·3	334·52	324·24	2·20	46·61	5·75	·196	66·2	52·54
	16	+0·1	334·95	326·10	2·14	48·83	5·86	·227	66·3	56·89
	17	−0·1	335·40	327·92	−2·09	51·11	5·98	·259	66·5	61·19
	18	0·3	335·86	329·68	2·03	53·45	6·11	·292	66·8	65·45
	19	0·5	336·32	331·37	1·97	55·85	6·24	·326	67·1	69·65
	20	0·7	336·79	333·00	1·91	58·31	6·38	·360	67·4	73·77
	21	−0·9	337·27	334·56	−1·84	60·84	6·53	·394	67·7	77·81
	22	1·1	337·74	336·05	1·77	63·44	6·69	·428	68·0	81·77
	23	1·3	338·20	337·46	1·69	66·12	6·86	·462	68·3	85·65
	24	1·5	338·65	338·80	1·61	68·88	7·04	·495	68·7	89·45
	25	−1·7	339·09	340·06	−1·53	71·71	7·22	·528	69·0	93·17
	26	1·9	339·51	341·24	1·44	74·62	7·41	·559	69·4	96·81
	27	2·1	339·92	342·34	1·35	77·61	7·61	·590	69·7	100·38
	28	2·2	340·31	343·36	1·25	80·69	7·82	·620	70·0	103·89

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		t	P	L	B	$\omega_\odot$	d	q	Q	v
1897.		m	°	°	°	°	"		°	°
Apr.	29	−2·4	340·67	344·29	−1·14	83·85	8·03	·649	70·3	107·34
	30	2·6	341·01	345·14	1·02	87·09	8·25	·677	70·6	110·75
May	1	2·8	341·32	345·90	0·90	90·42	8·47	·704	70·9	114·12
	2	3·0	341·60	346·57	0·77	93·84	8·70	·730	71·2	117·44
	3	−3·1	341·85	347·16	−0·63	97·35	8·94	·755	71·5	120·73
	4	3·3	342·07	347·66	0·48	100·94	9·17	·779	71·8	124·01
	5	3·4	342·25	348·07	0·33	104·62	9·41	·803	72·0	127·28
	6	3·6	342·40	348·39	−0·17	108·39	9·65	·825	72·3	130·55
	7	3·7	342·52	348·62	+0·01	112·26	9·89	·846	72·5	133·81
	8	3·9	342·61	348·76	0·19	116·24	10·13	·866	72·8	137·08
	9	−4·0	342·65	348·82	+0·38	120·24	10·36	·885	73·1	140·37
	29	−4·5	339·86	340·21	+4·44	210·70	11·56	·944	241·3	152·52
	30	4·5	339·77	339·92	4·57	215·07	11·40	·931	242·0	149·49
	31	4·4	339·71	339·71	4·68	219·38	11·23	·917	242·6	146·51
June	1	4·3	339·67	339·57	4·79	223·62	11·05	·902	243·2	143·58
	2	−4·2	339·66	339·50	+4·88	227·78	10·85	·887	243·7	140·71
	3	4·1	339·67	339·51	4·96	231·86	10·65	·871	244·2	137·89
	4	4·0	339·70	339·59	5·03	235·87	10·45	·854	244·6	135·12
	5	3·9	339·76	339·75	5·09	239·80	10·24	·837	245·1	132·39
	6	−3·8	339·85	339·98	+5·15	243·66	10·03	·819	245·6	129·71
	7	3·7	339·96	340·29	5·19	247·44	9·82	·801	246·0	127·07
	8	3·6	340·10	340·68	5·23	251·15	9·61	·783	246·5	124·46
	9	3·4	340·27	341·14	5·26	254·78	9·40	·764	247·0	121·88
	10	−3·3	340·46	341·68	+5·28	258·34	9·19	·745	247·5	119·32
	11	3·2	340·68	342·29	5·29	261·82	8·98	·725	248·0	116·77
	12	3·0	340·93	342·97	5·30	265·23	8·77	·705	248·5	114·23
	13	2·9	341·21	343·72	5·30	268·58	8·57	·685	249·1	111·70
	14	−2·7	341·51	344·53	+5·30	271·86	8·38	·664	249·7	109·16
	15	2·6	341·85	345·41	5·30	275·07	8·19	·643	250·3	106·61
	16	2·4	342·21	346·36	5·29	278·21	8·00	·621	250·9	104·04
	17	2·2	342·61	347·37	5·28	281·29	7·81	·599	251·5	101·45
	18	−2·1	343·03	348·45	+5·26	284·31	7·63	·577	252·2	98·83
	19	1·9	343·49	349·58	5·24	287·27	7·46	·554	252·9	96·16
	20	1·7	343·98	350·78	5·22	290·16	7·29	·530	253·7	93·45
	21	1·6	344·51	352·04	5·19	292·99	7·13	·506	254·5	90·68
	22	−1·4	345·07	353·36	+5·17	295·76	6·97	·481	255·3	87·85
	23	1·2	345·66	354·74	5·14	298·48	6·82	·456	256·1	84·94
	24	1·0	346·29	356·17	5·11	301·14	6·67	·430	257·0	81·96
	25	0·8	346·96	357·66	5·09	303·74	6·53	·404	258·0	78·89

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		t	P	L	B	ω_0	*d*	*q*	Q	*v*
1897		m	°	°	°	°	°		°	°
June	26	−0·7	347·67	359·21	+5·06	306·28	6·40	·377	259·0	75·73
	27	0·5	348·41	0·82	5·03	308·77	6·27	·350	260·0	72·48
	28	0·3	349·19	2·48	5·00	311·20	6·14	·322	261·1	69·12
	29	−0·2	350·01	4·19	4·97	313·58	6·03	·294	262·3	65·66
	30	0·0	350·86	5·96	4·95	315·90	5·92	·266	263·5	62·09
July	1	+0·2	351·75	7·78	+4·92	318·18	5·81	·238	264·8	58·42
	2	0·4	352·68	9·64	4·90	320·41	5·71	·211	266·2	54·65
	3	0·5	353·65	11·55	4·88	322·59	5·62	·184	267·7	50·78
	4	0·7	354·65	13·51	4·86	324·72	5·54	·158	269·2	46·82
	5	0·8	355·67	15·51	4·84	326·82	5·46	·133	270·9	42·79
	6	+1·0	356·72	17·54	+4·83	328·88	5·38	·110	272·7	38·69

I am quite willing to comply with the wishes of several observers and prepare similar ephemerides for *Venus*; but as the sketches are scattered, and at present only partly accessible, I require information about the dates, and also references to the published sketches, so that they may be consulted when I get the opportunity.

Colonel Cooper's Observatory,
Markree, Collooney, Ireland.

Attempt to photograph the Leonids in the Open Sky.

By Isaac Roberts, D.Sc., F.R.S.

The first opportunity for attempting to photograph the *Leonid* meteor swarm occurred on the morning of Sunday last, February 28, between the hours of $0^h\ 30^m$ and $3^h\ 30^m$. The sky was fairly clear and the conditions generally favourable for the trial.

Two very sensitive plates were simultaneously exposed with their centres pointed to the part of the sky given in the ephemeris, and the exposure continued during $2^h\ 45^m$. The negatives are of good quality, and the one exposed in the 20-inch reflector shows stars to the faintness of about 17th magnitude, whilst the plate exposed in the camera with 5-inch portrait lens shows stars to 15th magnitude.

The photo-field of the reflector plate is 2°, and that of the camera plate 17°, in diameter.

On careful examination of the two plates I can detect no indication whatever of either the meteor stream or the comet that is expected to accompany it.